

PYRAMIDOCOCCUS INDICUS IYENGAR FROM POONA*

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MOTS CLÉS : *Pyramidococcus indicus*, Volvocale, Chlorophyceae, distribution, Inde.

ABSTRACT. — The rare and interesting green alga *Pyramidococcus indicus* Iyengar (Volvocale) is being reported for the first time, since Iyengar's original discovery from South India in 1940. The present report would also appear to indicate a wide distribution for it over peninsular India.

RÉSUMÉ. — L'algue verte *Pyramidococcus indicus* Iyengar, Volvocale, est signalé pour la première fois depuis sa découverte par Iyengar, en 1940, dans le sud de l'Inde. Le présent article est également destiné à décrire la large distribution de cette algue dans la péninsule indienne.

Pyramidococcus, a member of the family Phacotaceae (Volvocales, Chlorophyta) was first collected in 1940 and described as a new genus in one of the late Prof. M.O.P. Iyengar's recent papers being now published posthumously as a series by Prof. T.V. Desikachary (IYENGAR and DESIKACHARY, 1976). It occurred in a collection made from the Kirkee pond first in April 1954 by Dr. S.D. Patil and Prof. M.S. BALAKRISHNAN. The author made three more Collections later, two in 10.5.1975, 31.5.1975 and the third on 2.12.1975.

The alga occurred in temporary blooms in rainwater puddles near the Kirkee pond just outside the campus of the University of Poona and in the Kirkee pond itself. Net Collections were made without disturbing the muddy bottom of the shallow pools in which the alga occurred.

The alga is unicellular and motile. The protoplast is subspherical to ovoid with a rigid periplast and separated from the lorica by a clear wide space (fig. 1, 2). The lorica was brownish in colour, ob-pyriform in side view (fig. 1-3, 5) and four sided when viewed from the apex (fig. 4) (Somewhat like the inflated calyx of *Physalis* sp. Solanaceae). The posterior end of the lorica was somewhat rounded and thin. The lorica ranged from 13.5 μm in the length and 9 μm to 22.5 μm in breadth. The brownish colour appeared to be due to impregnation with iron compounds as is usual in many algae. The surface of the lorica was finely granulate or sub-verrucose.

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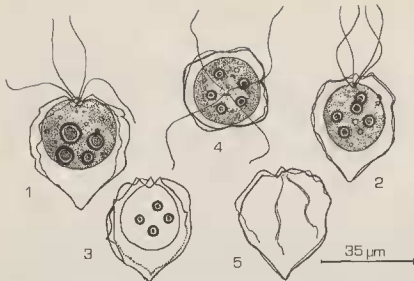


Fig. 1-5 : *Pyramidococcus indicus* Iyengar. 1-3 . alga showing the details of lorica and protoplast in side view. 4 : four-sided lorica when viewed from the apex. 5 : an empty lorica.

The subspherical to ovoid protoplast was 12.6 μm to 15.75 μm (mean : 14.65 μm) diameter with an anterior papilla (fig. 2). The cup-shaped and somewhat massive chloroplast and 1-5 pyrenoids; the prominent bright-red stigma is elliptical, oval or allantoid in shape and antero-submedian in position (fig. 1, 2). The single nucleus was lodged in the central cup of chloroplast and could be clearly seen when the cells were viewed from the top. The four isokont flagella are anterior in position, and cruciately positioned more or less perpendicular to the four sides of the lorica (fig. 4). They were usually as long as the protoplast, occasionally a bit shorter or longer but never exceeding the length of lorica. There were two prominent contractile vacuoles below the flagellar bases (fig. 2). As in the case of the original description the Poona alga did not exhibit any motile reproductive stages.

P. indicus is rather rare and sporadic in occurrence; when it does occur, however, it comes up in quite large quantities as already indicated. The Poona alga shows a much greater range in the dimension of the lorica as well as the protoplast than in the type material. However, the average dimensions agree more or less with those of the type.

The present account, is a second confirmative report of this genus. This alga may have a fairly wide distribution in southern Peninsular India, than is currently known.

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